

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
28 December 2000 (28.12.2000)

PCT

(10) International Publication Number
WO 00/78908 A1

(51) International Patent Classification⁷: C11D 11/00, 17/06, 3/50

(21) International Application Number: PCT/US00/16916

(22) International Filing Date: 20 June 2000 (20.06.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/140,094 21 June 1999 (21.06.1999) US

(71) Applicant (for all designated States except US): **THE PROCTER & GAMBLE COMPANY** [US/US]; One Procter & Gamble Plaza, Cincinnati, OH 45202 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MORRISON, Christopher, Andrew** [GB/GB]; 29 Sunlea Avenue, Cullercoats, Tyne & Wear NE30 3DS (GB). **DONOGHUE, Scott, John** [GB/GB]; 22 St. Julien Gardens, Newcastle upon Tyne NE7 7LL (GB). **SIMPSON, Graham** [GB/GB]; 6 Shipley Court, Gateshead, Tyne & Wear (GB).

(74) Agents: **REED, T., David et al.**; The Procter & Gamble Company, 5299 Spring Grove Avenue, Cincinnati, OH 45217-1087 (US).

(81) Designated States (*national*): AE, AL, AM, AT, AT (utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (utility model), DE, DE (utility model), DK, DK (utility model), DM, EE, EE (utility model), ES, FI, FI (utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

- With international search report.
- Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DETERGENT PARTICLES AND PROCESSES FOR MAKING THEM

(57) Abstract: Particulate detergents and methods for making them with improved process flexibility are disclosed. The detergent particulates are formed from a combination of pre-formed detergent particulates and other detergent ingredients which may also be preformed such as blown powders, extrudates or agglomerates or particulate raw materials. Selection of the feed streams into a low or moderate shear mixing process enable density of the finished detergent particle to be controlled without requiring careful control of the processing conditions.

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- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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WO 00/78908 A1

INTERNATIONAL SEARCH REPORT

In International Application No

PCT/US 00/16916

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C11D11/00 C11D17/06 C11D03/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C11D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 714 051 A (MILESI D ET AL) 30 January 1973 (1973-01-30) claim 1; examples ---	1-8, 12-15
A	FR 2 285 453 A (COLGATE PALMOLIVE CO) 16 April 1976 (1976-04-16) page 9, line 32 -page 10, line 24; claims ---	1-15
A	GB 2 120 695 A (COLGATE PALMOLIVE CO) 7 December 1983 (1983-12-07) claims; examples ---	1-15
A	DE 42 43 704 A (HENKEL KGAA) 30 June 1994 (1994-06-30) claims ---	1-9, 11-13
	--- -/--	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"G" document member of the same patent family

Date of the actual completion of the international search

16 October 2000

Date of mailing of the international search report

20/10/2000

Name and mailing address of the ISA

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Fax: (+31-70) 340-3016

Authorized officer

Grittern, A

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/16916

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB 2 190 921 A (UNILEVER PLC) 2 December 1987 (1987-12-02) claims; example 1 -----	1-9, 11-13
P,X	WO 00 18875 A (PROCTER & GAMBLE) 6 April 2000 (2000-04-06) the whole document -----	1, 14, 15

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/16916

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 3714051 A	30-01-1973	DE 2044536 A FR 2062579 A	08-04-1971 25-06-1971
FR 2285453 A	16-04-1976	NONE	
GB 2120695 A	07-12-1983	US 4526702 A AT 394381 B AT 131983 A AU 554683 B AU 1353983 A BE 896477 A BR 8301786 A CA 1217302 A CH 656396 A DE 3312774 A DK 163883 A, B, ES 521439 D ES 8406538 A ES 528104 D ES 8504916 A FR 2525232 A GR 78558 A HK 91090 A IT 1168855 B MX 157969 A MY 91887 A NL 8301325 A NO 831322 A, B, NZ 203689 A PT 76548 A, B SE 459659 B SE 8301999 A SE 466263 B SE 8803156 A ZA 8302109 A AT 399884 B AT 71791 A PH 23941 A US 4699729 A	02-07-1985 25-03-1992 15-09-1991 28-08-1986 20-10-1983 17-10-1983 20-12-1983 03-02-1987 30-06-1986 20-10-1983 16-10-1983 01-07-1984 01-11-1984 01-05-1985 16-07-1985 21-10-1983 27-09-1984 09-11-1990 20-05-1987 28-12-1988 31-12-1987 01-11-1983 17-10-1983 08-11-1985 01-05-1983 24-07-1989 16-10-1983 20-01-1992 08-09-1988 28-11-1984 25-08-1995 15-12-1994 23-01-1990 13-10-1987
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PATENT COOPERATION TREATY

PCT

REC'D 31 AUG 2001

WIPO

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference CM2157/3J	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/16916	International filing date (day/month/year) 20/06/2000	Priority date (day/month/year) 21/06/1999
International Patent Classification (IPC) or national classification and IPC C11D11/00		
Applicant THE PROCTER & GAMBLE COMPANY		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 4 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 27/12/2000	Date of completion of this report 29.08.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Schambeck, W Telephone No. +49 89 2399 2135 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/16916

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-46 as originally filed

Claims, No.:

1-15 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US00/16916

The negative statements with regard to inventive step rely on the following prior art documents; attention is in particular drawn to the passages given in parentheses:

- (1) GB-A-2 120 695 (page 1, lines 3 to 9, 47 to 51 and 84 to 105)
- (2) US-A-3 714 051 (column 1, lines 3 to 5 and 17 to 51; claim 1)

As apparent from documents (1) and (2), the concept of combining relatively fine and relatively coarse particles into a non-segregating detergent composition by adhering, in a mixing step, the fine particles to the coarse particles formed part of the state of the art at the priority date of the application under examination.

The inventions defined by claims 1 to 15 are considered obvious because they appear to merely concretise or supplement the prior art concept by

- (i) introducing restrictions defined so broadly that it does not appear plausible that (all embodiments of) the generic teaching defined by those restrictions should ensure the achievement of a desirable technical result not to be expected by a person skilled in the art and derivable from the application as filed and/or
- (ii) adding technical information rendered obvious by the content of the documents cited in the search report or the common general knowledge in the detergents field.

Concerning claim 1, attention is in particular drawn to the fact that no evidence has been provided that meeting the requirements with respect to the geometric mean particle sizes of the "detergent base particles" and the "detergent active particulates" given in that claim should be conducive to the solution of the problem of preventing the particles from segregating.

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NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 23 February 2001 (23.02.01)	
International application No. PCT/US00/16916	Applicant's or agent's file reference CM2157/3J
International filing date (day/month/year) 20 June 2000 (20.06.00)	Priority date (day/month/year) 21 June 1999 (21.06.99)
Applicant MORRISON, Christopher, Andrew et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
 27 December 2000 (27.12.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer R. E. Stoffel Telephone No.: (41-22) 338.83.38
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PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference CM2157/3J	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 00/ 16916	International filing date (day/month/year) 20/06/2000	(Earliest) Priority Date (day/month/year) 21/06/1999
Applicant THE PROCTER & GAMBLE COMPANY		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the title,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the abstract,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.

☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/16916

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C11D11/00 C11D17/06 C11D3/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C11D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

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- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

16 October 2000

Date of mailing of the international search report

20/10/2000

Name and mailing address of the ISA

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Fax: (+31-70) 340-3016

Authorized officer

Grittern, A

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/16916

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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P,X	WO 00 18875 A (PROCTER & GAMBLE) 6 April 2000 (2000-04-06) the whole document -----	1, 14, 15

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/16916

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GB 2190921	A	02-12-1987	NONE	
WO 0018875	A	06-04-2000	WO 0018874 A AU 6268999 A AU 6269099 A AU 6269199 A AU 6269299 A AU 9585098 A WO 0018876 A WO 0018877 A WO 0018878 A	06-04-2000 17-04-2000 17-04-2000 17-04-2000 17-04-2000 17-04-2000 06-04-2000 06-04-2000 06-04-2000



Creation date: 12-22-2003
Indexing Officer: LINSIXIENGMAY - LYANA INSIXIENGMAY
Team: OIPEBackFileIndexing
Dossier: 09979529

Legal Date: 12-14-2001

No.	Docode	Number of pages
1	M903	2

Total number of pages: 2

Remarks:

Order of re-scan issued on